Arizona Border Surveillance Technology Plan
(Advised by the SBI\textit{net} Analysis of Alternatives)

July 22, 2010

\textit{Abridged, for CBP Senior Staff July 23, 2010}
Executive Summary

• First phase of SBI\textit{net} Analysis of Alternatives (AoA) focused on Arizona: complete
• Border Patrol has augmented AoA with operational assessment of technology needs
• Result: baseline plan for technology deployment across Arizona
• Go-forward plans will build on results-to-date
  – Develop the baseline
  – Extend analysis beyond Arizona
Four Alternatives

- **Alt 3: Mobile**
- **Alt 4: Aviation-Centric**
- **Alt 1: Agent-Centric**
- **Alt 2: Fixed**

Aaxes are conceptual only; the positions of the alternatives are not shown to scale.
General AoA Conclusions

• There is no “one-size-fits-all” solution
• “Best” solution depends on specifics of a given area
  – Terrain, geography, population
  – Concept of operations and enforcement tactics (e.g., rapid egress)
  – Trade between cost and overall capability
• Mixing and matching technologies can increase overall cost effectiveness in any given area
Operational Assessment

Goal
- Identify appropriate mix of technologies to gain situational awareness to manage the Arizona border area

Process
- Convened a panel of operational SMEs from Arizona
- SMEs briefed on the science based AoA methodology and results
- Initially deferred to lower cost technology to meet the situational awareness requirement in each focus area
- Recommendations informed by existing IAA, ORBBP, Arizona surge documents, and the AoA
- Team doubled back to ensure proposed technology laydowns were reasonable based on the AoA

Result
- Proposed technology deployment in Arizona
Recommended Arizona Border Technology

(b) (5)
Implications for SBI\textit{net}

• Fixed towers and a Common Operating Picture (COP) have a role in future technology deployments
• Comprehensive technology integration may someday be useful—but best left to the future.
• However, the original concept for SBI\textit{net} of a single, wholly integrated “virtual fence” may not be appropriate
  – Not the right answer for all border areas
  – Not the system to integrate all other technologies
  – Not cost-effective
Recommendations

• Adopt Arizona proposed technology deployment as the basis for near-term decisions
• Continue deployment and testing of integrated fixed towers in TUS-1 and AJO-1
• Communicate (explicitly acknowledge) changes to the SBI\textit{net} program
• Apply AoA methodology along the rest of the border
• Optimize technology deployment based on operator judgments, the AoA, results of the fixed tower testing, and budget decisions
Arizona Border Surveillance Technology Plan
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July 22, 2010
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SBInet Analysis of Alternatives (AoA)

- Part of broader, Secretarial-directed assessment of SBInet
- Provides a “quantitative, science-based” assessment of types of technology approaches
- Enables rigorous comparisons of technologies and analysis of operational judgments
- Considers both effectiveness and cost
- Does not dictate a solution, but can provide a test of reasonableness or an input to broader analysis
- First Phase focused on Arizona—completed
  - Reviewed in detail with many DHS offices
AoA Alternatives

• Basic requirement: Awareness of border activity through surveillance and detection to facilitate apprehension

• Four basic technology approaches
  – Agent-centric
  – Mobile, decentralized systems
  – Fixed systems with centralized control centers
  – Aviation centric
Four Alternatives

- **Alt 1: Agent-Centric**
  - (b) (7)(E)

- **Alt 2: Fixed**
  - (b) (7)(E)

- **Alt 3: Mobile**
  - (b) (7)(E)

- **Alt 4: Aviation-Centric**
  - (b) (7)(E)

Axes are conceptual only; the positions of the alternatives are not shown to scale.
Note on UAS

• AoA evaluated whether UAS could also substitute for fixed, ground-based systems
General AoA Conclusions

• There is no “one-size-fits-all” solution
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Result
– Proposed technology deployment in Arizona
Example: (b) (7)(E) within Focus Area 1

- (b) (7)(E)
- (b) (7)(E)
- (b) (7)(E)

• AoA result:
- (b) (7)(E)

• Operational assessment:
- (b) (7)(E)
at higher cost. Operational assessment determines whether value is worth the cost.
Focus Area 1

- Focus Area Characteristics
  - (b) (7)(E)
  - (b) (7)(E)
  - (b) (7)(E)

- Additional Technology Requirements (ROM* initial investment)
  - (b) (5), (b) (7)(E)
  - (b) (7)(E)

- Air Support
  - (b) (7)(E)
Cost Estimates

• Focus Area 1
  - (b) (5)
  - (b) (5)

• Focus Area 2
  - (b) (5)
  - (b) (5)

• Focus Area 3
  - (b) (5)
  - (b) (5)

• Yuma Sector
  - (b) (5)
  - (b) (5)

• Cost Assumptions
  – Rough-Order-of-Magnitude (ROM) costs for technology investment and Operations and Maintenance (O&M)
  – Costs do not include air support
  – Costs do not include an embedded operational support cost for shared IT software and equipment of (b) (5)
Implications for SBI

(b) (5)
Go-Forward Plan

(b) (5)
Implications for Boeing Contract

(b)(5)
Key Schedule Events

• Complete AoA (b) (7)(E) (Arizona) Done

* Not including (b) (7)(E) due to environmental issues
** Dependent on GAO resolution of contractor protest
Recommendations

(b) (5)
Background

• CBP currently deploys a variety of technologies along the Southwest Border

• SBInet was planned to become the major, all-encompassing technology solution for the border

• The wisdom of this original SBInet concept is questionable

• Urgency of border security issues requires a timely and rational plan for technology deployment—now—to maintain persistent monitoring and surveillance
The Contribution of Technology

• Provides information about activity
  – Monitoring and surveillance
• Enhances ability to respond
  – Information about nature of incursions
  – Agent safety
  – Options (how, when, where)
• Contributes as one of three elements
  – Personnel, tactical infrastructure, technology
• Supports efforts both to *gain* and *maintain* border security
Technology for Arizona

• Compared technology alternatives against operational needs in Arizona
  – Advised, but not dictated, by SBI\textit{net} Analysis of Alternatives (AoA) Phase 1A
• Developed comprehensive technology proposal with emphasis on focus areas
• “Doubled back” to ensure proposal was reasonable based on AoA
Focus Area 2

- Focus Area Characteristics
  - (b) (7)(E)
  - (b) (7)(E)

- Additional Technology Requirements
  - (b) (7)(E)
  - (b) (7)(E)

- Air Support
  - (b) (7)(E)
Focus Area 3

- Focus Area Characteristics
  - (b) (7)(E)
  - (b) (7)(E)
  - (b) (7)(E)

- Additional Technology Requirements
  - (b) (7)(E)
  - (b) (7)(E)
  - (b) (7)(E)
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  - (b) (7)(E)
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- Air Support
  - (b) (7)(E)
  - (b) (7)(E)
  - (b) (7)(E)

5/24/2017
Station

- Focus Area Characteristics
- Additional Technology Requirements
- Air Support
AoA Results Depend on Area

Evaluation: MOE 2.0
Results for All Analysis Areas A-D

MOE 2.0: Enable Timely and Effective Response

Cost-Effectiveness Comparison
Analysis Area A – (b) (7)(E)

(b) (7)(E)

Cost-Effectiveness Comparison
Analysis Area D – (b) (7)(E)

(b) (7)(E)
SBI\textit{net} Near-Term Schedule

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*Not including environmental issues*

**Acquisition Decision Event-3**
# AoA Schedule and Status

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Focus on
- Near-term technologies
- Arizona border
- SBInet program decisions

(b) (7)(E)

(b) (5)